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DIALOG(R) File 351:Derwent WPI
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013170013 **Image available**

WPI Acc No: 2000-341886/200030

XRAM Acc No: C00-103898

XRXPX Acc No: N00-256880

Transfer-printing and thermoforming of pattern into plastic film,
exploits computer to control registration, anamorphosis and color density
to arrive at desired pattern and color vibrance in geometric embossments

Patent Assignee: SOC ENDUCTION & FLOCKAGE SA (ENDU-N)

Inventor: LION J P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2784619	A1	20000421	FR 9812863	A	19981014	200030 B

Priority Applications (No Type Date): FR 9812863 A 19981014

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
FR 2784619	A1	23	B41M-005/035	

Abstract (Basic): FR 2784619 A1

NOVELTY - For each elementary zone (a selected, simple geometric shape delimiting an embossment) of the film, the local degree of stretching during thermoforming into a non-planar surface is determined. For each elementary zone, a pre-deformed pattern (140a-d) to be printed on the surface of the flat film is determined.

DETAILED DESCRIPTION - For each elementary zone (a selected, simple geometric shape delimiting an embossment) of the film, the local degree of stretching during thermoforming into a non-planar surface is determined. For each elementary zone, a pre-deformed pattern (140a-d) to be printed on the surface of the flat film is determined. The pre-deformed pattern is defined by anamorphosis (a generally non-linear transformation) from the elements of the finally-intended pattern (141a-d) to appear on the non-planar, thermoformed surface. Account is taken of the degree of local stretching, in passing from the deformed, to the final pattern (141). The deformed pattern (140), as defined by its components obtained from the previous stage, is printed onto the surface of the film be thermoformed (114).

An INDEPENDENT CLAIM is also included for film embossed and printed as described.

Preferred features: The shade of coloring for each elementary zone is determined in terms of the final required shade, in each part of the pattern, following deformation (stretching generally weakening the color). Marks (31, 32) are printed for precise registration of the delimited zone being thermoformed; they comprise a longitudinal line (31) and a transverse stroke (32). A known sublimation transfer technique employing a supportive paper substrate temporarily hot-adhered to the film is used to print the pattern onto the film, which is cooled and re-separated. The film is printed directly from a paper transfer using inks with additives preventing adhesion between transfer paper and film. In an alternative, a white fibrous flocking is

first applied to the film for printing (known processes further described and illustrated in the disclosure). The printed film is thermoformed using a tool (50), in registration.

USE - To produce film printed and embossed in registration by thermoforming, controlling the final pattern and its color density.

ADVANTAGE - The method is a collection of techniques overcoming such problems as localized non-uniform distortion of plastic films during thermal transfer printing and detraction from color by embossing. It operates continuously on plain or flocked film. The quality of the image produced is exceptionally fine and clear. Four color transfer printing (e.g.) is suitable.

DESCRIPTION OF DRAWING(S) - The pattern shown is pre-deformed by computerized transformation, for subsequent thermoforming. The mold cross section shows with broken lines, how points on the pattern are displaced by thermoforming. A schematic side view of the printing and embossing line is also presented, in the disclosure.

surface of the film be thermoformed (114)
deformed pattern (140)

elements of pre-deformed pattern (140a-d)
finally-intended pattern (141)

elements of the finally-intended pattern (141a-d)
registration marks (31, 32)

longitudinal line (31)

transverse stroke (32)

thermoforming tool (50)

pp; 23 DwgNo 7,8/9

Title Terms: TRANSFER; PRINT; PATTERN; PLASTIC; FILM; EXPLOIT; COMPUTER;
CONTROL; REGISTER; ANAMORPHIC; DENSITY; ARRIVE; PATTERN; GEOMETRY; EMBoss

Derwent Class: A35; G05; P75; T01; X25

International Patent Class (Main): B41M-005/035

International Patent Class (Additional): B29C-051/00; B41M-001/30;
B41M-007/00; G06T-005/30

File Segment: CPI; EPI; EngPI

WPI Acc No: 2000-248168/200022

XRAM Acc No: C00-075208

XRPX Acc No: N00-185781

Pretreatment of flocked substrate for diverse printing processes lightly applies and dries polymer resin from suspension to prevent flock detachment, interference in printing machines and non-vibrant color printing

Patent Assignee: SOC ENDUCTION & FLOCKAGE (ENDU-N); SOC ENDUCTION & FLOCKAGE SA (ENDU-N)

Inventor: LION J; LION J P

Number of Countries: 025 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 989227	A2	20000329	EP 99402205	A	19990908	200022 B
FR 2783441	A1	20000324	FR 9811791	A	19980922	200023

Priority Applications (No Type Date): FR 9811791 A 19980922

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 989227	A2	F	3 D06P-005/00	

Designated States (Regional):	
AL	AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
FR 2783441	A1 B05D-003/10

Abstract (Basic): EP 989227 A2

NOVELTY - Flocks, already attached to the substrate, are lightly impregnated with polymer resin in aqueous emulsion in a bath. The material, thus impregnated, is dried. The resin attaches any loose flock fibers to the substrate. It limits ink penetration into the flock, in any subsequent printing stage.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for the product of such manufacture. Preferred features: The resin content in the aqueous bath is preferably 2-12 dry wt%, especially 6-7%. Impregnation density is 100-150 g/m squared. The resin is deposited in a moist environment on the flocked side only. Processes typically involve moistening, coating or atomization. Following impregnation, excess resin solution is wrung out using pressure rollers, which also even-out the deposit.

USE - A pretreatment for flocks applied to a substrate of e.g. paper or textile, especially before printing with e.g. patterns. Product uses abound, e.g. in packing, decoration, clothing and wall coverings.

ADVANTAGE - This process solves major problems affecting contact printing systems. These include flock fiber detachment, and accumulation in printing machines from which poor printing results. Ink absorption into fibers detracts from color strength and visual impression. The problems are overcome in the new process, without detracting from the feel of the material. A range of printing systems may be employed following pretreatment.

pp; 3 DwgNo 0/0

Title Terms: PRETREATMENT; FLOCK; SUBSTRATE; DIVERSE; PRINT; PROCESS; LIGHT ; APPLY; DRY; POLYMER; RESIN; SUSPENSION; PREVENT; FLOCK; DETACH; INTERFERENCE; PRINT; MACHINE; NON; VIBRATION; PRINT

Derwent Class: A32; A87; F06; P42; P78

International Patent Class (Main): B05D-003/10; D06P-005/00

International Patent Class (Additional): B44C-001/17; C09J-005/00; D06Q-001/12; D21H-017/62; D21H-021/16

File Segment: CPI; EngPI

Title Terms: PRINT; MULTICOLOUR; DESIGN; HEAT; SEAL; FILM
 Derwent Class: A35; A93; F07; F09; G05; P42; P73; P75; P78; T04
 International Patent Class (Main): B41M-005/035; B44C-001/165; B44C-001/17
 International Patent Class (Additional): B05D-001/14; B05D-001/16;
 B32B-005/22; B44C-001/18; D06P-005/28; D06Q-001/00; D06Q-001/14
 File Segment: CPI; EPI; EngPI

1/5/5

DIALOG(R)File 351:Derwent WPI
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010026666 **Image available**

WPI Acc No: 1994-294379/199436

XRAM Acc No: C94-134274

XRPX Acc No: N94-231506

Laminated applique for applying to a textile substrate - has a layer of flock fibres flocked in a desired motif or pattern onto an adhesive applied to one side of a plastic sheet material

Patent Assignee: HIWELD LTD (HIWE-N)

Inventor: KAY C; LION J P

Number of Countries: 048 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9419530	A1	19940901	WO 94IE8	A	19940222	199436 B
AU 9460431	A	19940914	AU 9460431	A	19940222	199502
EP 685014	A1	19951206	EP 94906990	A	19940222	199602
EP 685014	B1	19970521	WO 94IE8	A	19940222	
			EP 94906990	A	19940222	199725
DE 69403323	E	19970626	WO 94IE8	A	19940222	
			DE 603323	A	19940222	199731
			EP 94906990	A	19940222	
			WO 94IE8	A	19940222	

Priority Applications (No Type Date): IE 93122 A 19930222
 Cited Patents: FR 2659094; GB 2010123; GB 2245220; US 465478; US 5059452

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 9419530	A1	E	17	D06Q-001/14

Designated States (National): AT AU BB BG BR BY CA CH CN CZ DE DK ES FI
 GB HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA US
 UZ VN

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL
 OA PT SE

AU 9460431	A	D06Q-001/14	Based on patent WO 9419530	
EP 685014	A1	E	D06Q-001/14	Based on patent WO 9419530

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC
 NL PT SE

EP 685014	B1	E	10	D06Q-001/14	Based on patent WO 9419530
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Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC
 NL PT SE

DE 69403323	E	D06Q-001/14	Based on patent EP 685014
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Based on patent WO 9419530

Abstract (Basic): WO 9419530 A

An applique comprises a layer of flock fibres (5a:5b) flocked in a desired motif or pattern onto an adhesive (4) applied to one side of a plastic sheet material (3). The adhesive is applied through screens only in the areas to which the fibres are to be flocked and the flock fibres of at least two different colours are be flocked onto the

adhesive in a desired pattern sequentially through separate screens. Pref. the base layer is a PVC sheet and the flock fibres are polyamide fibres. The adhesive to be of a type compatible with both the flock fibre and the base material. The applique can be complete with a support base (2) of stiff paper, peelably attached to the underside of the base layer.

USE/ADVANTAGE - A multi colour applique for applying to a textile substrate. Provides an applique which has high colour fastness and stability after washing and also having high light fastness and abrasion resistance and pleasant tactile properties.

Dwg.1/3

Title Terms: LAMINATE; APPLIQUE; APPLY; TEXTILE; SUBSTRATE; LAYER; FLOCK; FIBRE; FLOCK; MOTIF; PATTERN; ADHESIVE; APPLY; ONE; SIDE; PLASTIC; SHEET; MATERIAL

Derwent Class: A35; A97; F07; G05; P73

International Patent Class (Main): D06Q-001/14

International Patent Class (Additional): B32B-005/08

File Segment: CPI; EngPI